

NATURAL RESOURCES COMMISSION
Information Bulletin #38
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SUBJECT: Implementation of the Indiana Groundwater Quality Standards at Coal Mines Regulated under IC 14-34

I. PURPOSE

The purpose of this nonrule policy is to provide guidance and added explanation of rules adopted by the Natural Resources Commission for implementation by the Department of Natural Resources, Division of Reclamation. These rules were given final adoption by the Commission on May 20, 2003 as amendments to 312 IAC 25 and are more particularly described as Legislative Services Document #02-104(F). They help implement the Indiana ground water standards established through the rules adopted by the Water Pollution Control Board that became effective March 6, 2002.

As required by IC 13-18-17-5, an agency with jurisdiction over an activity must adopt rules to apply the ground water quality standards adopted by the Water Pollution Control Board. As described in 327 IAC 2-11-2(b), when adopting rules an agency shall "...ensure that facilities, practices, and activities are designed and managed to eliminate or minimize, to the extent feasible, potential adverse impacts to the existing ground water quality by applying preventative action levels, design standards, a monitoring framework, or other regulatory methods." The amendments to 312 IAC 25 were developed in this context.

The amendments to 312 IAC 25 assist in the implementation of IC 14-34 (the Indiana Surface Mining Control and Reclamation Act or "Indiana SMCRA") governing surface coal mining and reclamation activities. The rules contain criteria for ground water classification, monitoring, and compliance that apply at sites regulated under Indiana SMCRA. This information bulletin has been developed to provide information concerning procedures and issues regarding the implementation of the rule amendments.

The following sections include a discussion of the background for the rulemaking, a section that describes the mines and associated activities that are subject to the rules, ground water classification, standards to be met, the establishment of a ground water management zone (or "GMZ"), the location at which the standards must be met, requirements for additional monitoring wells to serve as early detection wells, and the plans or actions that must occur if a standard is exceeded.

II. REGULATORY FRAMEWORK

The rules and their interpretations were developed within the context of existing state and federal mandates concerning coal mining. The existing program requires compliance with state water quality standards (IC 14-34-10-2(13), 312 IAC 25-6-12(c) and 25-6-76(c)). Coal mine operations are required to minimize disturbances to the prevailing hydrologic balance on the mine site and associated off site areas (IC 14-34-10-2(13)). Further, surface and underground coal mining activities must be planned,

conducted, and designed to minimize changes to the prevailing hydrologic balance in the permit area and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, in order to prevent long term adverse changes in that balance which could result from those activities (312 IAC 25-6-12(a) and 25-6-76(a)). It is clear that this language recognizes the possibility of impacts beyond the permitted area. It is also clear that any such impacts, should they occur, must be minimized and must not materially damage the hydrologic balance outside the permit boundaries.

Indiana SMCRA and rules developed under Indiana SMCRA recognize the potential for impacts to occur beyond the permit area or to uncontrolled properties within the permit area. Existing standards already require replacement of any water supply when used for any legitimate purpose is diminished, contaminated, or interrupted by mining activities. The rules do not grant anyone a right to cause impacts to adjacent or uncontrolled properties. Rather, Indiana SMCRA and rules developed under Indiana SMCRA recognize that a permittee may follow its approved plan, comply with all legal mandates, conduct operations in accordance with best management practices, and yet still have an impact on ground water off-site. Wide-scale off-site impacts in Indiana are very uncommon and, consequently, the rule amendments are not being developed to correct a problem. The rule amendments require that a specific standard be met at a specific distance or location.

Although impacts to water wells off the permitted area do occasionally occur, existing standards at 312 IAC 25-4-33, 25-4-78, 25-6-25, and 25-6-88 adequately address these problems. When an impact does occur, an alternate source of water is provided by the permittee. Moreover, the rule amendments in LSA Document #02-104(F) do not impart a permittee with any additional rights to intentionally or unintentionally cause impacts to adjacent areas and uncontrolled properties. The rights of property owners to take action against a permittee as a result of an impact to their property, beyond requirements imposed by these rule amendments, remain unaffected.

III. APPLICABILITY

The rule amendments apply to coal extraction areas where surface and underground coal mining and reclamation permits are issued under Indiana SMCRA. For the purposes of the rule amendments, coal extraction areas include augering, coal processing, coal processing waste disposal, spoil deposition, or underground development waste deposition that occurs after the effective date of the amendments or on which a disposal activity subject to IC 13-19-3-3 has occurred and the area is not fully released from the performance bond required by IC 14-34-6.

IV. GROUND WATER CLASSIFICATION

Ground water must be classified according to 327 IAC 2-11-4 to determine the appropriate narrative and numeric criteria and level of protection that applies to the ground water. The classification of the ground water at the boundary of the GMZ is drinking water class unless it has been classified as limited class ground water or impaired class drinking water by 327 IAC 2-11. It should be noted, the limited class ground water classified according to 327 IAC 2-11-4(d) must meet the requirements found at 327 IAC 2-11-7(b) which include only the constituent concentrations attributable to coal mining, not those associated with the disposal of coal combustion waste. See 327 IAC 2-11-5 through 327 IAC 2-11-8 for further information on the criteria for all

ground water, drinking water class ground water, limited class ground water, and impaired drinking water class ground water.

Should a permittee wish to propose a reclassification of ground water, the IDEM Ground Water Section should be contacted to discuss the IDEM procedures, specific information requirements, and the criteria for limited class ground water and impaired drinking water class ground water.

V. STANDARDS

Surface and underground coal mining and reclamation operations must be planned and conducted to prevent violations of the ground water quality standards found in 327 IAC 2-11. Mining and reclamation operations are to be performed to minimize the effects of mining and reclamation on the hydrologic balance in the permit area and adjacent areas and to prevent material damage to the hydrologic balance outside the permit area. Once the ground water has been classified, the monitoring framework has been established, and a plan has been included in the permit application to indicate the location the standards will be met, a demonstration including the measures that will be taken to ensure the protection of the hydrologic balance is to be made.

The standards found in 327 IAC 2-11 are point specific. The rules require that a specific standard be met at a specific distance or location. An exceedance at one point, even if that point is outside the permitted area, may not constitute material damage to the hydrologic balance, a concept that by definition at 312 IAC 25-1-67 involves a hydrologic system existing in an area. Both the rules and this information bulletin have been developed in this context.

VI. GROUND WATER MANAGEMENT ZONE (the "GMZ")

The point of compliance in 327 IAC 2-11 is the boundary of the ground water management zone ("GMZ"). The standards established by 327 IAC 2-11 must be met at and beyond the GMZ as established in 312 IAC 25-6-12.5(d) and 312 IAC 25-6-76.5(d). The boundary of the GMZ will be established during initial permit review and may be modified in response to changes in operations plans or alterations of permit boundaries throughout the life of the mine. Ground water monitoring plans included in the permit application will provide the manner in which water quality at the GMZ boundary will be measured. The location of the boundary of the GMZ will be based on the location of drinking water wells or a distance from mining related activities identified in subdivision (1) of 312 IAC 12.5(d) or 312 IAC 25-6-76.5(d) of the rules. In general, the GMZ boundary will be established three hundred (300) feet from the edge of:

- (1) coal extraction areas;
- (2) coal mine processing waste disposal sites if not within coal extraction areas;
- (3) areas where coal is extracted by auger mining methods;
- (4) locations at which coal is crushed, washed, screened, stored, and loaded at or near the mine site unless the locations are within the coal extraction areas; or
- (5) spoil deposition areas.

An exception to this condition will occur when the permit boundary or the extent of property controlled by the permittee is located at a distance less than three hundred (300) feet from areas requiring a GMZ. While the standards will apply at the boundary of the GMZ, ground water monitoring wells will be required at locations within the control of

the mining company that are within the GMZ (i.e. less than 300 feet from the mining activities that define the GMZ). To minimize confusion, DOR will refer to those wells established within the GMZ as "interception wells." Likewise, in the event a drinking water well is located within three hundred (300) feet of areas requiring a GMZ, and there is a likelihood of impact, a monitoring well (interception well) may be required between the drinking water well or wells and the activities that define the GMZ.

For underground mines, the GMZ boundary will normally be established at a distance of three hundred (300) feet from the edge of the area containing the surface effects of the mining operation. These include:

- (1) coal mine processing waste disposal sites;
- (2) locations at which coal is crushed, washed, screened, stored, and loaded at or near the mine site; or
- (3) underground development waste and spoil deposition areas.

As with the surface mines, a monitoring well will be required within the GMZ when the GMZ boundary falls on uncontrolled properties. When coal refuse is disposed in the underground works, the GMZ boundary will be modified to incorporate any area in which this activity occurred.

VII. Effective Date

This information bulletin is effective February 1, 2004.